

1 Description

2

3 Method for configuring an automation installation

4

5 The invention relates to a method for configuring an
6 automation installation.

7

8 Automation installations often contain a large number of
9 single components communicating with one another. Starting
10 up, maintaining or expanding the installation's
11 functionality requires "configuration phases". In a
12 configuration phase, the "configuration data" for the
13 automation installation are created. These denote everything
14 including programs, control instructions, etc. which
15 ultimately provide the automation installation with its
16 actual functionality.

17

18 The manufacturer of automation components and installations
19 usually provides example programs, standard routines and
20 other auxiliary means which make it easier for the
21 installation operator to create the configuration data.
22 Nevertheless, each user reconfigures the automation
23 installation afresh for his specific application. There are
24 therefore configuration data freshly created in parallel or
25 recurrently by a wide variety of users, and these data often
26 solve or achieve identical or at least very similar problems
27 or objects in the automation installation. A configuration
28 operation of this type is often time-consuming and complex.

29

30 It is an aim of the invention to simplify the configuration
31 of an automation installation.

32

33 The object is achieved by a method for configuring an
34 automation installation in which a provider stores
35 configuration data in a database. These configuration data
36 can be taken from the database by a buyer as a copy.

37

1 If the provider and buyer are both users of an automation
2 installation, for example, then configuration data can be
3 transferred between them. The configuration data from the
4 providing user can be used to support the buyer or the buyer
5 is able to use parts of the configuration data directly for
6 his own purposes in his automation installation. This
7 significantly simplifies and speeds up configuration of the
8 buyer's automation installation.

9
10 Over the course of time, the database may accumulate very
11 large volumes of configuration data from various providers,
12 which means that a buyer can take identical or similar
13 solutions from the database for many of his problems and can
14 thus easily and quickly create his configuration data.

15
16 Duplications can be effectively avoided in this manner. The
17 buyers as users obtain their automation solutions more
18 quickly. Ideas can also be exchanged between users. The
19 manufacturer of an automation system can also gain access to
20 the configuration data as a buyer and can obtain insights
21 for his further product development from these configuration
22 data. As a provider, the manufacturer of an automation
23 component is able to provide user-prompted, e.g.
24 specifically optimized, solution elements in the database.

25
26 In one preferred embodiment, the database is used to store a
27 description associated with the configuration data. This
28 description can be taken from the database by the buyer. By
29 taking and examining the description of configuration data,
30 the buyer obtains a rapid overview of the configuration data
31 provided and can easily decide whether or not they are of
32 use to him. He does not first need to analyze the
33 configuration data himself so as to become clear about the
34 functionality, significance and purpose thereof in slow and
35 laborious fashion.

1 In a further embodiment of the invention, the buyer
2 transfers a denomination to the database in order to take a
3 copy of the configuration data. This denomination may be an
4 electronic currency, for example, which the buyer receives
5 from the operator of the database in return for a monetary
6 payment to said operator, or money can be transferred
7 directly between bank accounts associated with the buyer and
8 the operator of the database. The buyer therefore pays money
9 to the database for the configuration data. This may be
10 entirely profitable to him, because he himself saves time
11 and effort and hence also money for independent development
12 of the configuration data.

13
14 In a further refinement of the invention, a denomination is
15 transferred to the provider of the configuration data for
16 each copy thereof which is taken from the database. The
17 provider is therefore paid for his work which he has
18 invested in creating the configuration data whenever a buyer
19 takes a copy of his configuration data from the database.
20 The provider therefore becomes the service provider for the
21 buyer in a certain way.

22
23 The denomination which the provider contains may correspond
24 to the denomination which the buyer transfers, for example.
25 Alternatively, part of the denomination may be withheld by
26 the operator of the database in order to pay him for
27 providing the database. The payment gives providers an
28 incentive to store their created configuration data in the
29 database and in this way to make them available to the other
30 operators of automation installations.

31
32 In a further embodiment of the invention, the database is
33 connected to the Internet. This gives providers and buyers
34 in equal measure the opportunity to access the database very
35 easily, since an Internet connection can be regarded as
36 standard today for any user operating an automation

1 installation. The infrastructure for effective and
2 widespread use of the database is therefore already in
3 place.

4
5 For a further description of the invention, reference is
6 made to the exemplary embodiments in the drawings, in which,
7 in a respective basic illustration:

8
9 FIGURE 1 shows the configuration of an automation
10 installation using a database,
11 FIGURE 2 shows various payment operations when using the
12 database from figure 1.

13
14 Figure 1 shows a database 2 for configuration data for
15 automation installations 4a-d. As users of the database 2,
16 there are various providers 6a-c and buyers 8a-c, the
17 provider 6c simultaneously being a buyer 8c.

18
19 The provider 6a operates the automation installation 4a. For
20 this, he has created configuration data 10a. The provider 6a
21 attaches a description 12a describing his configuration data
22 10a to a copy of said configuration data and stores the
23 entire data packet in the database 2 at a storage location
24 14a therein. This operation is indicated by the arrow line
25 16a.

26
27 The provider 6b has another automation installation 4b, but
28 from the same manufacturer as in the case of the automation
29 installation 4a, for which he has designed different
30 configuration data 10b. He acts as described above for the
31 provider 6a and places his configuration data 10b with the
32 corresponding description 12b at the storage location 14b in
33 the database 2.

34
35 The buyer 8a does not yet have an automation installation
36 but before purchasing one wishes to obtain information about

1 the general availability and quality of configuration data
2 10a,b,c in the database 2 in order to decide whether he will
3 purchase an automation installation like the automation
4 installations 4a,b - namely from the manufacturer thereof.
5 He therefore takes a copy of the descriptions 12a,b from the
6 database 2 on the path indicated by arrow 18a and can study
7 these descriptions in detail.

8
9 To simplify the language, the text below also refers to "the
10 data" etc. when strictly copies are meant.

11
12 The buyer 8b has just purchased the automation installation
13 4c - again from the same manufacturer - and wishes to
14 configure it. He takes the description 12a from the database
15 2 along the path 18b and establishes that said description's
16 associated configuration data 10a meet his needs exactly. He
17 therefore also takes the configuration data 10a from the
18 database 2 on the same path 18b and supplies them to his
19 automation installation 4c.

20
21 The buyer 8c takes the descriptions 12a,b from the database
22 2 along the path 18c. He establishes that the two associated
23 configuration data items 10a,b provide solution elements for
24 his automation installation 4d. He therefore takes the two
25 configuration data items 10a,b from the database 2 along the
26 path 18c. Through his own additional efforts, he combines
27 the configuration data 10a,b and expands them by additional
28 functionalities and alignments to produce configuration data
29 10c, which he introduces into his automation installation 4d
30 on the path 18c.

31
32 To make his created configuration data 10c accessible to
33 other users as well, the former buyer 8c then acts as a
34 provider 6c. He provides the configuration data 10c with a
35 corresponding description 12c and puts the packet comprising

1 configuration data 10c and description 12c into the storage
2 location 14c in the database 2 along the path 16c.

3
4 Configuration data and descriptions are stored and taken
5 along the paths 16a-c and 18a-c in simple fashion
6 electronically via the Internet in the form of what is known
7 as an upload or download. In this context, the database 2 is
8 in the form of an Internet page which is maintained by an
9 operator (not shown), namely by the manufacturer of the
10 automation installations 4a-d.

11
12 Figure 2 again shows the database 2 from figure 1. The
13 operator (not shown) of the database 2 and the manufacturer
14 of the automation installations 4a-d has an account 30 which
15 is associated with the database 2 and in which he manages
16 denominations 32. Descriptions 12a,c can be taken from the
17 database 2 by any buyer 8a,b at no cost and at any time.
18 Even the buyer 8a, who is not yet a customer of the database
19 operator because he has not yet purchased an automation
20 installation from him, is entitled to take descriptions 12a
21 at no cost.

22
23 The buyer 8b is also entitled to take descriptions 12a,c
24 from the database at any time at no cost. Since he is also a
25 new customer and has just purchased the automation
26 installation 4c, he is also entitled a free download, that
27 is to say to take configuration data at no cost. He decides
28 to take the configuration data 10a from the database 2. He
29 therefore does not need to pay anything for taking these
30 data along the arrow 18b.

31
32 At a later time, the buyer 8b decides to re-equip his
33 automation installation 4c. For this, he also requires new
34 configuration data. He therefore takes the description 12c
35 from the database 2, again at no cost, and finds that the
36 configuration data 10c meet his requirements. This time,

1 however, he can no longer obtain these configuration data on
2 the path 18b at no cost, since he has already made use of
3 his one free download by obtaining the configuration data
4 10a.

5
6 The buyer 8b therefore sets up an account 34a, which is
7 empty at first. In return for payment of a certain sum of
8 money to the operator of the database 2, he receives a
9 transfer to his account 34a of a few denominations 32 from
10 said operator's account 30. The denominations 32 may have
11 the same or different monetary equivalents. By returning a
12 denomination 32 or a plurality of denominations 32
13 corresponding to the configuration data 10c to the account
14 30 - that is to say by performing a payment operation -,
15 indicated by the arrow 36, he receives the configuration
16 data 10c in return via the path 18b and can then supply them
17 to his automation installation 4c.

18
19 The configuration data 10c have previously been created by
20 the provider 6c and have been put into the database 2 with
21 the associated description 12c. They therefore comprise an
22 equivalent provided by the provider 6c, since the latter has
23 invested work time and effort in creating the configuration
24 data 10c.

25
26 When the copy 10c has been obtained by the buyer 8b, the
27 operator of the database 2 sets up an account 34b for the
28 provider 6c, if the latter has not yet done this himself,
29 and transfers denominations 32 to this account from his
30 account 30 as payment for the copy 10c of the configuration
31 data from the provider 6c which the buyer 8b has obtained.

32
33 The denomination 32 transferred to the provider 6c from the
34 account 30 along the path indicated by the arrow 38 may
35 either be the full amount of the denominations paid by the
36 buyer 8b or an amount of denominations 32 which is reduced

1 by a commission for the operator. The provider 6c is now
2 free to use the path indicated by the arrow 40 either to
3 transfer his denominations 32 to the operator's account 30,
4 and to have the corresponding sum of money paid to him from
5 this account, or to have the denominations 32 credited to
6 him when next purchasing a product (not shown) from the
7 operator of the database 2.

8
9 The latter way is usually more profitable for the provider
10 6c.

11
12 To pay for configuration data 10a,c, the operator of the
13 database 2 normally has diverse options, only a few of which
14 are mentioned here by way of example: it is conceivable that
15 new customers can obtain a limited number of configuration
16 data items from the database 2 at no cost for purchasing an
17 automation installation, with the operator nevertheless
18 transferring a credit from his own stock to the relevant
19 provider of the configuration data.

20
21 The operator can even put configuration data into the
22 database 2 and be paid for these data when they are
23 purchased. The operator can give away denominations 32 to
24 buyers' accounts, said denominations in turn not being able
25 to be cashed in, but rather entitling said buyers to a
26 manner of free purchase of configuration data as a result.
27 The opportunity for free purchase may have a time limit.

28
29 It is also possible for the provider not to be credited
30 until more than five users have obtained his configuration
31 data.

32
33 It is also conceivable to allow the exchange market to be
34 used only by a particular group of people, e.g. by the
35 buyers of a particular manufacturer of automation
36 installations.

37